

Jeopardy Assessment

For the Revision of Incidental Take Protocols for
Eastern Massasauga Rattlesnakes
Broad Authorization for Grassland Management

Background

Eastern massasauga rattlesnakes are the smaller of two Wisconsin rattlesnake species. They live in and around open wetlands and hibernate at or below the water table in crawfish and small mammal burrows or in old root channels. In summer, they live in a variety of wetland and upland habitats, primarily in open, sunny habitat. Massasaugas prey primarily on small rodents, but they will also feed on frogs and young birds. Every other August, beginning at age three or four, females give birth to 8-20 live young. Their range in Wisconsin has decreased considerably due to a number of causes, the most significant of which include habitat loss and fragmentation; damming of major rivers (which has inundated suitable habitat); the draining and tiling of wetlands through extensive drainage systems, particularly in central Wisconsin; and human persecution (bounties and wanton killing). As a result of significant population declines and local extinctions, massasaugas were listed as Endangered in Wisconsin in 1975. Since their listing, populations have continued to dwindle and conservation efforts are now underway to address recovery of this snake. Massasaugas are the most endangered reptile in the state. They are also listed as state-endangered in most states where they occur in the U.S. and are designated as threatened in Ontario. In 1999, this species was formally listed as a Candidate Species for federal listing by the U.S. Fish and Wildlife Service.

In order to enable the Department of Natural Resources and others to conduct habitat management for this snake that does not jeopardize the long-term survival of their populations, a special protocol was developed for this species in association with the Grassland and Savanna Protocols (broad incidental take authorization). Under the current approved protocol for eastern massasauga rattlesnakes, prescribed burning, mowing and herbiciding are restricted to the period of hibernation for this species in order to avoid incidental take. Avoidance is required to the maximum extent practicable because we believe the snake cannot sustain any incidental take and still maintain the opportunity for recovery. The current protocol identifies an April 5 cut-off date by which the above management actions must be completed in order to avoid take of the snake. This date is guidance and is adjusted each spring based on actual conditions (frost presence and/or air temperatures). Recent research conducted on massasaugas over four emergence seasons indicates that soil temperature is an excellent predictor of first emergence in spring. Using soil temperatures rather than a calendar date will allow land managers to make local decisions based on actual conditions. This will provide them with certainty in predicting emergence and also improve flexibility in conducting management.

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The Department has determined that the proposed revisions will not result in any increased risk of incidental take of the eastern massasauga rattlesnake but will in fact be a better tool to guide when burning, mowing or herbiciding can and cannot occur in habitats supporting this species.

